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Clinical Section

Case Report

*From the Women's Clinic
Winnipeg General Hospital*

T. J. (Patsy), Age 41.

MANITOBA MEDICAL ASSOCIATION REVIEW

VOL. 18

1938

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Clinical Section

Case Report

*From the Tumour Clinic
Winnipeg General Hospital*

Mr. F. J. (Polish), Age 31.

History.

This patient was admitted to the Winnipeg General Hospital November 17, 1930, under the care of Dr. O. S. Waugh, complaining of a painful swelling in the dorsum of his right foot. In July, 1930, while working as a section hand he dropped a railroad tie on his foot. Following this he had considerable pain in his foot but was able to carry on his work. His foot remained swollen until October 24, 1930, when he was laid off because the job was finished. At this time he decided to seek medical advice as the foot was becoming more painful and the swelling that had been present was increasing rather rapidly. He could notice the increase in size from day to day.

The pain was worse in the morning when he started to walk on his foot and was also quite marked by the end of the day. He also noticed a throbbing sensation in the foot. He had no previous illnesses and there was nothing of importance in his past history or family history.

Examination.

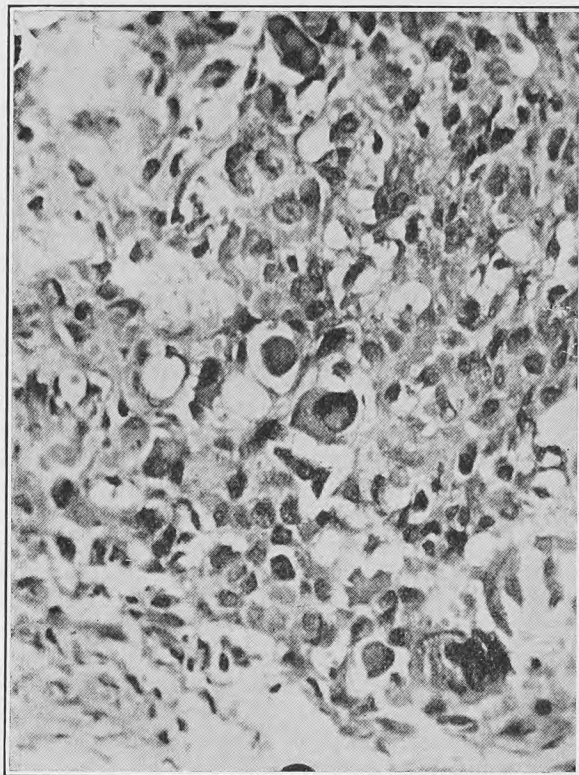
Examination showed a healthy looking young man apparently not suffering any pain. General examination was negative, except for the findings in the right foot. The skin of the foot was somewhat brawny on the dorsum where it covered a swelling which extended over the upper half of the first, second, and third metatarsal and the distal tarsal bones. There was increased local heat. Movement of the first two toes was quite painful. The consistency of the swelling was fairly soft and there was slight tenderness on palpation. Temperature and pulse were normal; leucocytes 10,000.

An X-ray taken the day after admission showed some periosteal elevation and roughening over the proximal half of the shaft of the second metatarsal bone. The radiologist's opinion was that this suggested an osteomyelitis but that the possibility of sarcoma should be borne in mind.

Treatment.

The following day, November 19, the swelling was explored by incision. Pus was not found but there was quite profuse bleeding. A clinical diagnosis of sarcoma was made.

A few days later a course of deep X-ray therapy was started. A subsequent X-ray showed an increase in the formation of new bone and an increase in the size of the swelling. This was more suggestive of sarcoma than osteomyelitis. An X-ray of his lungs was negative.



*Microphotograph showing pleomorphism
and tumour giant cells (x 300).*

On December 21, 1930, a Syme's amputation was done as a palliative procedure rather than an attempt at cure.

Pathological Report: Foot amputated at ankle joint, shows firm swelling over metatarsals. The tendons are stretched over a tumour extending from the metatarsal bones into the soft tissue. It arises from the periosteum of the proximal end of the 2nd metatarsal. There is very little involvement of the bone. The greater part of the tumour is in the soft tissues. It is red and firm and measures 6 x 4 cm. It contains bone. *Microscopic:* Osteogenic sarcoma, periosteal type.

Progress Notes: The patient was discharged on the 19th February, 1931, with the stump well healed and condition satisfactory.

This patient has been reporting back periodically to the Tumour Clinic ever since. His last appearance was in November, 1937, and there is no sign of recurrence of his disease locally or generally.

Comment: This case is reported (1) because there appears to have been a definite relationship between the trauma and the subsequent development of osteogenic sarcoma; (2) an osteogenic sarcoma is rather uncommon in the bones of the foot or hand; (3) this man is now well and free from disease seven years after his operation.

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The Teaching of Anatomy*

By

I. MACLAREN THOMPSON, B.Sc., M.B., Ch.B. (Edin.)

Professor of Anatomy, University of Manitoba

HISTORICAL INTRODUCTION

Nearly half a century ago Alexander Macalister, the erudite professor of Anatomy at Cambridge, drawing upon his vast store of Egyptological learning, wrote: "The Anatomy of Man is an ancient and royal subject of study. The first book whereof we have any record was on this theme, and its author was a king." From the days of the Pharaohs to our own, the practical need for knowledge of the human body has constrained man to overcome his primitive emotions towards the dead. In Egypt that knowledge was necessary for the elaborate embalming ritual. After the Dark Ages, dissection was revived in Europe by Mundinus, not so much because the physicians sought to use knowledge of the normal body in the care of the sick and injured, as because the rise of the great law school at Bologna created a demand for reliable data whereon to base decisions as to the cause of death amongst a people skilled in the use of the stiletto and of subtle poisons. From Vesalius' day to the present, anatomy has been recognised as an essential part of medical education. The nineteenth century, however, witnessed, as part of the great scientific development of the period, the rise of anatomy as a science, to the cultivation of which some men devote their entire energies for a lifetime; such men seek to understand the human body, in addition to knowing it. In the early nineteenth century the use of the microscope increased greatly; and the study of the functional properties of living bodies developed into a separate science called physiology, which also requires the undivided attention of those striving to master it. One of the first of such men in Britain was William Sharpey, a Scotsman born in Arbroath and trained in anatomy at Edinburgh. A keen traveller on the Continent, he caught the enthusiasm for microscopic work then sweeping Germany; and he perceived the importance of the microscopic study of tissues and organs for an understanding of their functional attributes. Upon appointment as the first professor of physiology at University College, London, in 1836, Sharpey took microscopic anatomy, comprising both histology and embryology, into the department of physiology, leaving anatomy with nothing but what Stephen Leacock has described as "pickled corpse and desiccated bone." The history of our subject for the next three-quarters of a century was determined by four of Sharpey's students, three of whom were his assistants, and founded the leading British schools of physiology of their day: Sir Michael Foster founded the Cambridge school; Sir John Burdon-Sanderson the Oxford

school; and Sir Edward Schafer (who in his later years added Sharpey's name to his own, calling himself Sharpey-Schafer) founded the modern Edinburgh school of physiology. Through their influence, until recently, throughout the British Empire, histology has been an appendage of physiology; embryology soon returned to anatomy, however, because of the relationship between the two involved in the theory of evolution. The fourth of Sharpey's great pupils, Lord Lister, affected anatomy in a much less direct, but scarcely less important way. Antiseptic surgery (together with anaesthetics) led to a glorious extension of the field of operative surgery, the importance of anatomy in which was so obvious that throughout the latter half of the nineteenth century and the first quarter of the twentieth anatomy was, so to speak, energised by two dominant ideas: (a) its practical utility in surgery (especially operative surgery), and (b) something totally different in origin and nature—the theory of evolution. Pre-occupied with these two, anatomy did not feel the loss of histology. But it was a most unfortunate circumstance that both the surgical and the evolutionary aspects of anatomy could be studied on dead material. From Sharpey's time until relatively recently, anatomy has consisted of little but the conventionalised description of inanimate objects. This is why it became estranged from all but the purely surgical (i.e., the most mechanical) aspects of medicine. In all but a few of the best medical schools its only importance was surgical, its only technique was dissection, and its only laboratory an offensive dissecting room, the most important traditions of which frequently centred on such matters as accuracy of aim with a liver. This was not the anatomy of that immortal lecturer on anatomy to the Royal College of Physicians of London who in the year 1628 revolutionised the whole of biology and medicine by the publication of "An Anatomical Dissertation on the Movement of the Heart and Blood in Animals." It was not the anatomy of those great Scottish anatomical brothers of the second half of the eighteenth century, William and John Hunter; nor of those other Scottish anatomical brothers of the early nineteenth century, John and Charles Bell. It was an exhausted subject, intellectually bankrupt, degraded into a mere stepping-stone (or, as some preferred, a handmaid) to surgery, from which many of the ablest minds in medicine turned with contempt as soon as the examinations were over. That was the great anatomical depression.

MODERN ANATOMY

In the meantime the more scientific aspects of anatomy were being developed by the rising school of biologists. The modern revival of medical anatomy started about the turn of the century in the United States, under the leadership of F. P. Mall of the Johns Hopkins Medical School, of whom Sir William Osler wrote: "To few men is it ever given to revolutionize completely the method of teaching and investigating a subject. This Mall did for anatomy in the United States."

* Read before the Winnipeg Medical Society April 16, 1937.

Under his influence histology was restored to anatomy, and experimentation was definitely established as a method of anatomical study. The leadership of the Americans in the modern revival of anatomy is generally acknowledged, even in England; only last summer Professor Le Gros Clark of Oxford said to the British Medical Association: "American journals of anatomy are almost as richly supplied with records of experimental investigations as are the journals of physiology. Consequently anatomical science in America has until recently been far more progressive and dynamic than in this country. It is of the utmost importance that we, as anatomists, should realise this position."

It should also be understood, however, that the Americans are not really leading us out into a strange wilderness; they are leading us back again to the highest type of British anatomy, that goes back three centuries—the anatomy of William Harvey, of John Hunter, of Charles Bell. Now each of these was a clinician, and was stimulated by clinical problems to study anatomy. Modern anatomy is, then, better articulated, so to speak, with clinical work than was the anatomy of our student days—in spite of its greater preoccupation with live rats than with dead men—nay, *because of that*—or rather because of the point of view that it signalises. Anatomy is being revived; its object is not knowledge of the dead, but understanding of the living. Of course the knowledge that can be acquired only by dissecting the cadaver remains essential, but merely as a means, not as an end in itself. What would we think of an automobile mechanic who could name and describe the parts of the engine and knew how they fitted together, but did not understand how the machine worked? Similarly, of what use is the ability to describe, say, the upper end of the femur, and all the muscles attached to it, if we fail to consider the structural arrangement in the light of the transmission of body weight (1) while standing, when movement must be prevented, and (2) while walking or running, when movement must be produced; of what the various muscles are doing under sundry circumstances; of the leverage for those muscles; and of such questions as whether the movement-preventing contractions of the muscles are under the same nervous control as the movement-producing contractions? Again, anybody who knows the relative positions of the bones of the foot can understand the pathological *anatomy* of flat-foot; but when we try to treat that disorder, we find that cure depends not upon returning the bones to any particular anatomical relationship (arch-like or otherwise), but upon getting back into working order the functional mechanism—the anti-gravity muscle reflexes—whereby the weight of the body is properly distributed through the foot to the ground. Our object, then, is to understand the human body as a working mechanism, so that we may keep it in good running condition, and render skilled assistance when break-downs occur. But, it may be said, that is physiology, not anatomy. In my

opinion, this point is purely academic—merely a matter of definition. I shall just say this: it is unprofitable to attempt to study structure and function separately. If we do, we find ourselves groping for answers to such unanswerable questions as What is the function of this or that structure or organ, e.g., the cerebellum? This is to think of functions as intangible spirits inhabiting structures somewhat as ghosts haunt old houses; attempts to discover such functions lead to results similar to those attending efforts to lay ghosts. That is because the question, What is the function of this structure? assumes *a priori* that the material structure is haunted by some ghostly function. It is the result of this sort of nonsense that passes under the name "Functional Anatomy." That it is nonsense is shown by the fact that the scientific methods of observation and experiment yield no answer to questions about structure *and* function. I think that this is because such questions assume the existence of function as something different from structure, an assumption that I believe to be fallacious. As Coghill puts it, It is not a question of structure *and* function, but of structure *in* action. The questions, What happens when this structure acts? What is the consequence of such action? can be answered in terms of the results of observation and experiment, because they imply no vitiating assumption; they are scientific questions and the answers to such questions constitute what I should term Dynamic Anatomy. Now, only living structure can be active, hence we arrive again at the idea that the true object of anatomical study is an understanding of *living* structures. If the separate identity of structure and function prove false, with it goes the distinction between anatomy and physiology—a distinction that should never have arisen. Let me appeal again to Harvey—the patron saint of physiology—the greatest anatomist that has ever lived. He entitled his immortal work *not* "An Anatomical Dissertation on the Structure of the Heart and Blood Vessels;" *not* "A Physiological Dissertation on the Movement of the Heart and Blood;" but "An *Anatomical* Dissertation on the *Movement* of the Heart and Blood." What, then, is to become of our anatomists and our physiologists as such? (For brevity's sake I omit biochemistry from this discussion, contenting myself with asking one question: What is biochemistry, but ultra-microscopic or molecular anatomy—the dynamic anatomy of living molecules?) The academic distinction between anatomists and physiologists will probably remain for a long time, each man studying those matters that interest him most, without limitation by their nature or the techniques involved (except, of course, insofar as practical considerations may enter, such as the presence of certain apparatus in a particular department). It does not really matter who teaches the mechanics of respiration provided that somebody teaches it; that there is no excessive duplication of effort; and that whoever teaches it is himself interested in it, be he anatomist or physiologist. And there is enough to be learned

about the human body to keep us all busy—
anatomists and physiologists, working both separately and in collaboration—for as long as we need plan for.

THE COURSE IN ANATOMY

An understanding of each part of the body, and of its significance to the organism, would appear to be best acquired by studying each organ (say the intestine) in all its aspects as nearly simultaneously as is feasible—its gross anatomy, its microscopic anatomy, its radiographic anatomy, its development and anomalies, and so forth. It is planned to abolish in this medical school separate courses in gross anatomy, histology, embryology and neurology, and to have a single, comprehensive course in anatomy. There will have to be separate laboratory periods devoted to gross and microscopic work, each under the direction of him best qualified, but they will be integrated into a single coordinated course of study. It is planned to devote the first part of the course to a consideration of the general principles and aspects of anatomy, including general histology (the tissues, etc.), general embryology (germ layers, placentation, etc.), and the general features of the nervous system. The main reason for introducing the nervous system early is because it controls the activities of practically all the other systems; hence their dynamic anatomy can not be understood without prior knowledge of the nervous system. Dissection, with its correlated osteology, and so forth, must naturally remain the foundation of the course; but upon that will be built up considerable study of living structures, and of their responsive capacities. Gross anatomical structures will, so far as possible, be studied in action in the students' own bodies, in cubicles, somewhat like examining cubicles in hospitals; simple bone-joint-muscle experiments will be performed, nerves will be stimulated electrically, and so forth. The study of the living body under the fluoroscope, which Dr. Digby Wheeler now conducts, will of course be continued. Under the microscope, the recognition of the appearance of various kinds of cells, tissues and organs when dead and glorious as the rainbow will, I hope, be followed by some observation of such cells when alive, and of what they do under certain circumstances or influences. Here we reach out towards pathology; by the judicious use of a few particles of soot the anatomist can demonstrate the phagocytic capacity of tissue macrophages, leaving to the pathologist the consideration of the results of that process under specific abnormal conditions. Again, having observed the orderly and controlled architecture of mucous membranes, glands, and other normal epithelial structures, a section of an actively growing carcinoma (obtained through the kindness of the pathologist) will give the student a dramatic lesson in what epithelium is capable of doing. This is not attempting to teach the pathology of tumours; it is merely giving a glimpse of the dynamic potentialities of epithelium. In one

examination the students were asked to contrast the characteristics of arteries and veins: most of them stated (amongst other points) that veins usually contain blood, whereas arteries do not! Now those students were speaking from experience; all the arteries that they had ever seen were dead, and contained no blood. Of course they understood that living arteries contain blood, but the trouble was that they were not thinking of living arteries because they had never seen living arteries. They were thinking of microscopic sections, which, curiously enough, led them to slip into an error that was current in the school at Alexandria two thousand years ago. I hope to be enabled to continue giving, as I have done for a number of years, what I call anatomical clinics, to senior students of anatomy, discussing (and having them discuss) the anatomical points and questions raised by clinical cases.

ANATOMICAL SCIENCE

Anatomy is of use to medicine only insofar as it has something to contribute: that something constitutes the science of anatomy. Now this science is peculiar inasmuch as, unlike other sciences such as chemistry, anatomy cannot exist outside medical schools. Hence medical schools, which, to be worthy, should be centres of investigation, as well as of practice, cannot honorably shirk the responsibility of supporting the *entire* science of anatomy (not merely those aspects of it which are of obvious and immediate practical importance). We pre-clinical scientists should not devote *all* our time and energies to teaching and to matters of clinical interest; we must be allowed—we should be encouraged—to cultivate our own purely scientific studies also. For only thus can we bring anything to clinical medicine that is not already common knowledge. The more medical men appreciate this, the better.

CONCLUSION

Perhaps our most important duty is so to train the student that a student he will remain to the end of his days; for we are preparing him not for the practice of today, but for that of ten, twenty, thirty years hence. The aim of the course in anatomy will be not so much to provide an encyclopaedic knowledge of particular bones, muscles, arteries, and so forth, as to afford what I might call an anatomical introduction to medicine, striving to develop in the student an intelligent, critical, well-oriented understanding of the make-up of the living body as a going concern, together with some notion of how our ideas have developed, how they change, and the kind of observational basis on which they rest. This suggests a concluding quotation from Harvey: "Not from books, but from dissections, not from the tenets of philosophers but from the structure of Nature, do I profess to learn and to teach Anatomy."

Special Articles and Association Notes

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Editor

C. W. MACCHARLES, M.D. (MAN.)

Advisory Editor

ROSS B. MITCHELL, B.A., M.D., C.M. (MAN.),
F.R.C.P.(C.)

Business Manager

J. GORDON WHITLEY

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Executive Meeting

Minutes of a meeting of the Executive of the Manitoba Medical Association held in the Medical Arts Club on Tuesday, November 23rd, 1937, at 6.30 p.m.

Present.

Dr. C. W. Burns	Dr. E. K. Cunningham
(Chairman)	Dr. A. S. Kobrinsky
Dr. C. W. MacCharles	Dr. W. W. Musgrove
Dr. Digby Wheeler	Dr. O. C. Trainor
Dr. S. G. Herbert	Dr. W. S. Peters
Dr. E. S. Moorhead	Dr. D. J. Fraser.
Dr. R. F. Yule	

Guests.

Dr. F. G. McGuinness	Dr. O. J. Day
Dr. F. D. McKenty	Dr. F. W. Jackson.
Dr. Gordon Chown	

Following dinner the President called the meeting to order, and it was moved by Dr. S. G. Herbert, seconded by Dr. R. F. Yule: That the minutes of the last full meeting of the Executive be taken as read, these having been published in the *Review*. —Carried.

The Secretary then read the minutes of the last meeting of the Winnipeg members of the Executive held on October 25th, and they were adopted.

Business Arising out of the Minutes.

Letter from Dr. F. A. Young: Letter was read from Dr. Young dated May 13th, re. allowance for expenditures for sickness of tax payers or his dependents on income tax. Report was received from Dr. G. S. Fahrni, Chairman of the Legislative Committee, dated November 23rd.

It was moved by Dr. Digby Wheeler, seconded by Dr. O. C. Trainor: That this report be filed.

—Carried.

Correspondence Between Mrs. McWilliams and Dr. Chown: Following further discussion of this matter, it was felt by the members present that there would be nothing gained by having this correspondence published, and it was moved by Dr. Digby Wheeler, seconded by Dr. R. F. Yule: That this correspondence be filed. —Carried.

Letter from Canadian Medical Association re. Pasteurization of Milk: The Secretary read the previous correspondence in connection with this subject, and advised that Dr. Jackson was having Dr. Schultz, Director, Division of Food Control, collect the information required. Following discussion, it was moved by Dr. S. G. Herbert, seconded by Dr. D. J. Fraser: That the Secretary be instructed to write to Dr. Routley in reply to his letter of September 17th, and advise that this Association had always been in favor of pasteurization and that the same question had been passed by our Executive years ago, and that where possible we concur in this where pasteurization facilities are available. —Carried.

Letter from Dr. Strong re. Appointment of Company Doctors: The Secretary reviewed the correspondence in connection with this subject, and advised that a letter had been sent to the Workmen's Compensation Board.

It was moved by Dr. W. W. Musgrove, seconded by Dr. A. S. Kobrinsky: That when Major Newcombe's reply is received with copies of the Act that it be handed over to the Committee appointed to deal with this matter, namely, Dr. C. W. Burns, Dr. S. G. Herbert, Dr. C. M. Strong and Dr. Digby Wheeler. —Carried.

Annual Meetings of Manitoba Medical Association: The Secretary read correspondence in connection with this subject from the various District Medical Societies. All of the Societies had replied to the enquiry except the Northern District Medical Society and in each case were in favor of having meetings in the autumn. Following discussion, it was moved by Dr. Digby Wheeler, seconded by Dr. W. W. Musgrove: That the meetings of the Association in the future be held in the autumn, and the last two weeks in September be suggested as the time. —Carried.

Remuneration for Secretary: The Secretary, Dr. C. W. MacCharles, retired from the meeting and the President stated that the question of remuneration be taken up at the next meeting.

eration for the new Secretary had not been settled at the previous meeting and he simply desired a motion in the minutes as an authorization for such remuneration as may be decided upon. It was, also, pointed out that he was doing all work in connection with the publication of the *Review*.

It was moved by Dr. W. W. Musgrove, seconded by Dr. S. G. Herbert: That the Secretary's salary be carried on at the same rate as previously, and any further remuneration in connection with the editorship of the *Review* be considered later.

—Carried.

Report from Committee on Internship: Dr. McGuinness stated he expected to hear a report in connection with this subject. Dr. Moorhead advised that there had been several corrections made in the report and this would all be printed in the C.M.A. *Journal* in complete form.

Report of Representative on Executive of Canadian Medical Association: Dr. Moorhead reported on the Executive meeting of the Canadian Medical Association held at Ottawa on October 28th and 29th. Complete report on the various subjects was mimeographed and copies sent to all members of the Executive as follows:

Constitution of Canadian Medical Association.

The subject of the new constitution provided material for a long discussion. Nearly every member appeared to be opposed to the use of the suggested terms "fellows" and "members," nor did they take any more kindly to "members" and "associate members." The final recommendation made by a sub-committee and adopted, was that any provincial medical association being already recognized as a branch, may at any time become a division through application and by carrying out the provisions of Chapter 1 of the by-laws. Every member in good standing in a division who shall pay the conjoint fee from time to time, is a member in good standing in the Canadian Medical Association. It is understood that the fee payable to the Canadian Medical Association shall be \$8.00 per annum. There is no stipulation as to any number or proportion of the members of the provincial association, who are required to join. The division is, of course, expected to assist as far as is reasonably possible to increase the membership.

It was further recommended that the members of the Nominating Committee should be nine, one from each province. The question of reducing the Executive to a similar number produced much discussion. One heard proportional representation favored; it was pointed out that Ontario has three medical schools and many general practitioners. Ontario once upon a time had three university members and the general practitioners demanded a representation, so that now Ontario has one university and two general practitioner representatives; it did not appear likely that any one man would be familiar with the university and practitioner problems, and therefore it ap-

peared that there should be three representatives from Ontario and a similar number from Quebec.

As requested by the Executive, I brought up the question of the General Council instructing the Executive Committee with regard to the appointment of the General Secretary, the Editor, the Managing Editor, the Associate Secretaries, etc., and the fixing of their salaries. This suggestion did not appear to be popular with the Committee and no motion was made. I am of the opinion that if there is merit in the suggestion it should be brought up again. When I raised the question as to what Dr. McKenty's position was and why he had not received a copy of the amended constitution, I was informed that no provincial members have so far been appointed. Dr. Harris is chairman of this committee.

Requests for Grants from Governments.

With regard to the suggestion that the Federal and Provincial Governments should be approached for grants for association activities, the committee did not think this advisable.

Health Insurance.

The report by Dr. Routley on his trip to the British Isles and Europe, was discussed at great length, mainly on the question of publication. All members found much of interest in it, but the committee was firm in its opinion that wide publication might be dangerous at a time when health insurance may become a political issue. It was felt that excerpts might be of value if carefully censored; the report was referred to the Committee on Economics for study and report to the Executive.

Medical Relief in Drought Areas.

Saskatchewan is giving help to doctors in these areas on a province wide basis; there is no evidence of Federal assistance for the payment of doctors, but it is quite possible and not improbable that the Federal Government may be giving assistance but that the method of doing so cannot be easily discovered. The doctors in that province are getting up to \$150.00 a month and ten cents a mile for country travel; fees can be collected. The committee felt that it was not wise to press the Honorable Mr. Dunning further in the matter.

Brief to Royal Commission Considering British North American Act.

The attitude of the Canadian Medical Association to the Royal Commission was discussed and each member of the Executive was asked to send his views to Dr. Young and Dr. Routley as early as possible, as it is necessary to prepare a brief to present to the commission at an early session.

Dr. McMillan, representative of Prince Edward Island, who has much experience, having been Minister of Health, undertook to prepare a brief taking up questions of National Health. It was arranged that the general secretary should attend meetings of the commission whenever medical problems were being discussed, but he will only

do so in conjunction with a representative or representatives of the Provincial Association. He will at an early date suggest to the Executive of the Provincial Associations the manner in which this can be done.

Report of Treasurer.

There was a surplus of \$6,000 for the year which was almost entirely profit from the Ottawa meeting last summer; \$1,400 was also saved by there being no executive meeting in the spring of 1937.

Regional Sub-Executives and Secretaries.

Two items on the agenda of interest to the West were: (1) a regional sub-executive of the Canadian Medical Association and (2) associate secretaries in various regions of the Canadian Medical Association activities; these were grouped together when brought up. A hurried motion that they be deferred until the next meeting of the Executive was passed.

Broadcasting.

Mr. Gladstone Murray of the Canadian Broadcasting Corporation appears to be anxious to have medical lectures; they would be delivered by one anonymous physician. The plans for this were left to the sub-executive at Toronto.

New Appointment for Dr. Routley.

Dr. Routley, the general secretary, who has been appointed Managing Director of the Department of Cancer Control, will receive a salary of \$300.00 per month for this service.

Ontario Health Act.

I brought up the question of the section in the Ontario Public Health Act which says, "No medical practitioner shall charge any fee for treating a case for whose treatment the hospital receives any payment from a municipality." Dr. Routley was apparently not aware either of this paragraph or of the general tenure of the Act. He took a copy of it and promised to send me information. Dr. Gillie, the Fort William representative, was also unable to give me definite information. Subsequently it was shown that this only applied to indigents.

Meeting of Executive.

The possibility of the Executive Committee having to devote three days instead of two to the business of the Canadian Medical Association, was discussed, and it is quite likely that the spring session will have to be extended owing to the large volume of business which has to be presented, and the fact that work becomes slipshod after an eight or ten hour session, often followed by one to three hours of work on sub-committees.

Copy of Review for Executive of Canadian Medical Association.

Dr. Routley asked if a copy of the Manitoba Medical Association Review containing this report could be mailed to each member of the Executive. He thinks that a running commentary as distinct

from the official minutes is of value; he believes that each Executive member should prepare something similar for his provincial *Journal*, since he will report mainly on matters of local interest. Apparently such is not the custom in other provinces.

Dr. Moorhead reviewed the various subjects.

Dr. McKenty addressed the meeting and supplemented Dr. Moorhead's report, particularly in regard to the matter of Federation and the proposed new constitution of the Canadian Medical Association. Dr. McKenty stated he had attended a meeting of the British Medical Association in Belfast and was impressed with the proceedings and the manner in which the meeting was carried out. He stated there was no parallel at all in comparison to our meetings in Canada.

It was moved by Dr. W. S. Peters, seconded by Dr. A. S. Kobrinsky: That Dr. F. D. McKenty be reappointed Chairman of the Committee on Federation in case it should be necessary for him to call a meeting with regard to this matter.

—Carried.

Correspondence.

Re. Free Administration of Diphtheria Toxoid and Pamphlet to be Issued by Department of Health re. Feeding Babies from 9 to 12 months of age: Dr. Gordon Chown addressed the meeting and stated that the State was slowly usurping the care of children so that we have practically state medicine so far as children are concerned, which is evident by free toxoid, free vaccine, Bureau of Child Hygiene, City Health Department, free toxoid clinics, school nurses, etc., etc., with the result that those who have made a specialty of pediatrics find their practice diminishing yearly as a result of the state's intervention. He pointed out that toxoid was even being administered free to the children in the municipality of Tuxedo, one of our wealthiest suburban communities. He read letters in connection therewith between himself and the Minister of Health. Dr. Chown felt that free public health services of this type should be confined to the poor and indigent or low salaried people.

Following Dr. Chown's remarks Dr. Day spoke and expressed the same views as Dr. Chown.

The Secretary then read correspondence between Dr. Chown and the Minister of Health in October, 1937.

Discussion of Dr. Chown's remarks took place by the various members of the Executive.

Dr. Burns stated that this was an involved subject and he suggested possibly Dr. Jackson might wish to say a few words, and suggested that a committee should be appointed to go into it.

Dr. Jackson then stated facts regarding the policy of the Government. Dr. Jackson particularly wished to know if the pamphlets he had forwarded have been approved. The President explained that these pamphlets had been received and sent to Doctors Chown and Day, two of our

leading pediatricians, and that they approved of their contents. He wished to have the authority of the Executive to reply to Dr. Jackson's letter.

An amendment to the original motion was moved by Dr. Digby Wheeler, seconded by Dr. A. S. Kobrinsky: That the matter of approval of the method of distribution of this pamphlet be left over until this matter is considered by a sub-committee for that purpose.

Amendment was put to the meeting and carried by a vote of seven to one.

The committee thus appointed consists of Dr. Digby Wheeler, Dr. O. C. Trainor and Dr. A. S. Kobrinsky, with power to add.

It was further suggested that this broad question of the relation between the Department of Health and the practice of medicine might be dealt with by the Royal Commission before it was finally disposed of. Dr. Burns suggested that a committee could, at least, give it superficial study. Dr. Trainor stated we should let this committee stand and study the limited question for a definite answer to Dr. Jackson's letter, but wished that the Committee on Sociology would take up the whole question and report back.

It was moved by Dr. O. C. Trainor, seconded by Dr. S. G. Herbert: That the Committee on Sociology be instructed to consider the broad question as to the attitude to be adopted by the Manitoba Medical Association with regard to the relation between the Departments of Health and the private practitioner in preventive and curative medicine. —Carried.

Letter from Winnipeg Medical Society re. Group Hospitalization: The Central Council of Social Agencies are studying this question and sent a request for an opinion to the Winnipeg Medical Society. Their letter was referred to the Manitoba Medical Association for an opinion from the Committee on Sociology. The Committee on Sociology held a meeting and voted approval of the principle of Group Hospitalization as follows: That the Sociology Committee recommend that the Manitoba Medical Association approve of the principle of Group Hospitalization, and recommend further study of the problem.

The Winnipeg Medical Society passed the following motion at their meeting: That the Winnipeg Medical Society do not disapprove of the principle of Group Hospitalization and recommend further study of the problem, and further

That the Winnipeg Medical Society appoint a committee to study this problem, and the committee of the Central Council of Social Agencies be asked to have our committee sit in with them.

The Winnipeg Medical Society appointed a committee to meet the Central Council of Social Agencies.

Discussion followed, and Dr. Musgrove stated that this was referred to the Manitoba Medical Association because it might be a matter that would not be restricted to Winnipeg alone but

might affect other places where hospitals were established.

It was moved by Dr. O. C. Trainor, seconded by Dr. W. W. Musgrove: That the Manitoba Medical Association approve of the principle of Group Hospital Insurance, but would expect that the medical profession would have representation on any body administering such insurance.

—Carried.

Letter from Dr. Corbett re. Fees for Insurance Examinations: The Secretary was instructed to reply to this advising Dr. Corbett that this was a private arrangement between the physician and company, and that there was no standard fee.

Letter from St. Joseph's Hospital re. Emergency Treatment of Workmen's Compensation Cases—Minor Injuries: Lengthy discussion followed on this subject as to whether the hospitals had a right to charge for emergency cases, or if internes should be allowed to collect a fee and do the work. It was pointed out that the Workmen's Compensation Board stated that the doctor should supply dressings and drugs, etc., for minor injuries. In view of this it was felt that if the hospitals wish remuneration for their facilities, they could send each doctor a monthly statement of his account for the use of the casualty wards.

Dr. Wheeler so moved, seconded by Dr. Fraser. —Carried.

It was moved by Dr. D. J. Fraser, seconded by Dr. W. W. Musgrove: That the Manitoba Medical Association disapprove of hospitals charging for compensation cases in casualty wards, or their internes accepting the responsibility, or accepting fees for the treatment of workmen's compensation cases. —Carried.

Letter from Holy Ghost Fraternal Aid Society: It was moved by Dr. W. W. Musgrove, seconded by Dr. R. F. Yule: That the Holy Ghost Fraternal Aid Society be notified, and it is quite within their rights to have their own doctor see a beneficiary under the Fund, but that it is customary for them to notify the attending physician, and arrange for a consultation if possible. —Carried.

The Secretary was instructed to write the Society to this effect.

Letter from Deputy Minister re. Suggested Health Course, Women's Institutes in Manitoba: The Secretary read a letter from Dr. Jackson under date of September 14th, enclosing outline of proposed course, and it was moved by Dr. D. J. Fraser, seconded by Dr. O. C. Trainor: That the Manitoba Medical Association approve of this. —Carried.

Hospital Aid Act: The Secretary read communication under date of October 20th from Dr. Jackson, enclosing copy of letter sent by the Minister of Health to all medical officers of health in Manitoba.

The Secretary advised that at the last Annual Meeting Resolution No. 10 dealing with this problem had been referred to the Executive, and at the last meeting of the Executive it was decided

that this was a problem for the Minister of Health. The Minister of Health had written to the Reeves, Secretaries and medical officers of health of the various municipalities, and had sent a copy of the letter to the Manitoba Medical Association for their information.

The Secretary also read a copy of a reply received by the Department of Health from one municipality in response to the letter, taking exception and citing cases without names from the municipality where abuses were alleged to be the result of action by medical men and hospitals. Dr. Trainor stated that if the rest of the replies from other municipalities were like this, it would be unprofitable to discuss it. We would require specific cases, and it was a question of the good faith of the hospital admitting officer as they cannot always get certificates from health officers.

Dr. Jackson then read several letters from various municipalities stating that the hospitals did not make a determined effort to collect accounts from patients when they were admitted. Dr. Trainor stated that this allegation was untrue, that the hospitals always tried to collect their bills from patients, and that if the Union of Municipalities, the Hospital Association and the medical profession could get together on the question, it would be the only way of reaching a solution.

It was moved by Dr. D. J. Fraser, seconded by Dr. E. K. Cunningham: That as it is the opinion of this committee that the solution of this problem of hospitalization depends upon a sympathetic understanding between the Union of Municipalities, the Hospital Association and the Manitoba Medical Association, which should be furthered as much as possible by meetings between these organizations, and that the Minister of Health be asked to arrange such a meeting as soon as possible. —Carried.

Manitoba Association of Physio-Therapists: The Secretary read a letter from the Secretary of this Association, asking approval of the incorporation of their Association. The Secretary explained that the Secretary of the Winnipeg Medical Society had advised him that he had been interviewed by representatives of a group of physio-therapists.

It was moved by Dr. Digby Wheeler, seconded by Dr. D. J. Fraser: That the Secretary be instructed to advise the Winnipeg Medical Society that the Manitoba Medical Association is willing to co-operate with the Association of Physio-Therapists in any way in discussing this problem. —Carried.

Letters from The College of Physicians and Surgeons: Letter was read under date of September 4th, advising of appointments from the College of Physicians and Surgeons on the Executive of the Manitoba Medical Association. The Secretary was instructed to acknowledge this letter.

Letter dated November 2nd was read, advising that an amount up to \$300.00 had been granted to the Manitoba Medical Association for extra-mural post-graduate work. The Secretary was instructed to acknowledge this letter with thanks.

Letter was read from the College dated November 2nd, informing the Association that the sum of \$15.00 per month had been donated to the Manitoba Medical Association *Review* providing that the material as prepared by the Medical Library in the form of a catalogue list of books and periodicals be published in one special issue of the *Review* with a special color of cover. It was pointed out that this would entail a large number of listings.

After a lengthy discussion, it was moved by Dr. O. C. Trainor, seconded by Dr. Digby Wheeler: That the College of Physicians and Surgeons be asked to reconsider this motion made at their meeting, and that it be pointed out to them that the cost of issuing such a publication listing these books, would be exceedingly high and that the Manitoba Medical Association could not accept this offer as the amount suggested probably would not cover the expense of publication, and further that as the *Review* is sent to every registered practitioner in the Province that some contribution from the College of Physicians and Surgeons is justified even if they do not use all the space available for their notices. —Carried.

Eye Clinic at Emerson, Manitoba: The Secretary read a letter forwarded from the Director of Public Health, Miss E. A. Russell, with regard to an Eye Clinic at Emerson. It was moved by Dr. Wheeler, seconded by Dr. Herbert: That this letter be referred to the Eye, Ear, Nose and Throat Section of the Winnipeg Medical Society. —Carried.

Letter from Dr. O. S. Waugh: The Secretary read a letter from Dr. Waugh dated November 18th, 1937, in connection with cases sent in to Winnipeg Hospitals from Saskatchewan without provision for payment of medical services. The Secretary explained that this had been taken up by the Surgical Staff at the Winnipeg General Hospital, and Dr. Waugh had been asked to write a letter to the Association.

Following discussion, it was moved by Dr. Digby Wheeler, seconded by Dr. D. J. Fraser: That the Secretary be instructed to write to the Saskatchewan Medical Association suggesting that in the case of patients sent to hospitals in Manitoba from Saskatchewan, that the accounts of the doctors and the hospital be guaranteed by the municipality in the same way as if they were admitted to a Saskatchewan hospital. —Carried.

Letter from Henderson Directories Limited: Letter was received suggesting the listing for doctors in the city directory showing degrees, address and office number, limitation of practice and office hours. Following discussion, it was moved by Dr. D. J. Fraser, seconded by Dr. S. G. Herbert: That the Manitoba Medical Association do not approve of this type of listing. —Cd.

Letter from Dr. Purdie re. Sulphanilamide: The Secretary explained that he had replied to a request from Dr. Purdie for information with regard to this drug, and had replied with what information was available. This action was approved.

Rowell Royal Commission: The Secretary read copy of a communication from Dr. Routley under date of November 2nd addressed to Dr. Moorhead, which had been forwarded to the Association for their information, and stating that Dr. Routley desired instructions for the preparation of a brief to be submitted by the Canadian Medical Association to the Royal Commission and also representation from our Association to attend sittings of the Commission.

Dr. Trainor suggested that this be referred to the Committee on Sociology with the request to attend the sittings of the Commission. Dr. Moorhead was of the opinion that Dr. Routley might meet the Committee on Sociology at a luncheon and include the President and Secretary of the Manitoba Medical Association.

It was moved by Dr. W. W. Musgrove, seconded by Dr. O. C. Trainor: That the Winnipeg members of the Executive arrange to meet Dr. Routley when he arrives in Winnipeg to attend the meetings of the Rowell Royal Commission, and that a representative of the M.M.A. should sit in at these meetings. —Carried.

Dr. Yule suggested that Dr. Moorhead take the responsibility of being there and if he cannot go he should get someone to take his place. It was moved by Dr. E. S. Moorhead, seconded by Dr. Yule: That the President appoint an official representative to attend the session of the Rowell Royal Commission. —Carried.

The President appointed Dr. Moorhead as the representative of the M.M.A. to observe the sittings of the Royal Commission and Dr. C. W. MacCharles to attend if Dr. Moorhead should be unable to do so.

New Business.

Examination of Single Men on Farm Employment: Dr. Fraser stated that the Government had been sending single unemployed men to the country to work on farms, and required that these men to have a medical certificate stating that they are free from infectious diseases. The men are unable to pay and the Government provide no remuneration for the doctor issuing the certificates. He felt the Government should be asked to make some provision for payment of these examinations.

Following discussion, it was moved by Dr. Musgrove, seconded by Dr. D. J. Fraser: That the Manitoba Medical Association take this matter up with the authorities concerned. —Carried.

The meeting then adjourned.

New X-Ray Therapy Department at the Winnipeg General Hospital

The installation of a new high-voltage X-ray therapy apparatus has just been completed at the Winnipeg General Hospital. During the next few days preliminary tests and standardization work, necessary for accurate measurements of the radiation from this powerful apparatus, will be carried on. After the completion of this essential work the apparatus will be ready for the treatment of deep seated malignant tumors.

This new apparatus is the most modern and powerful X-ray equipment in Canada, and operates at a potential of 400,000 volts, producing a much more penetrating form of X-radiation than has hitherto been available in this country for the treatment of cancerous growths. Together with the other types of X-ray therapy equipment already in the hospital it is housed in the handsome new building specially constructed for the purpose.

Ample supplies of radium and radium emanation are available to the hospital from the Manitoba Cancer Relief and Research Institute, and the radiation from this new apparatus fills a gap midway between the Gamma rays from radium and the X-rays generated by the older equipment at about 200,000 volts.

This new department was made possible by the generosity of Mr. John A. Forlong, as a memorial to his deceased wife, Grace Anne Forlong.

DESCRIPTION OF X-RAY THERAPY EQUIPMENT

The super-voltage therapy equipment installed at the Winnipeg General Hospital is of the constant potential type with a nominal capacity of 400,000 volts at 5 milliamperes.

The generator is so designed, however, that it is capable of producing 450,000 volts at 25 milliamperes in order that two or more tubes can be operated if desired. This increased capacity also can take care of any X-ray tube developments that may be available during the next ten years.

The equipment consists essentially of the constant potential high tension generator system, the shockproof tube drum and control panel. The generator itself comprises two insulating transformers and the four self-contained 100,000 volt constant potential units together with the X-ray filament transformer, designed so that two additional units may be added later to increase the capacity to 600,000 volts.

The tube drum is supported on steel girders, is oil filled and entirely shockproof. It is connected to the high tension generator in the adjoining room by means of two shockproof cables passed through the wall. The tube drum is compact and neat in design and is provided with an automatic motor driven lead shutter operated from the control panel, and several treatment

cones enabling treatments to be given at either 50 or 80 cm. distances. An angular cone displacement of 60° is available, and as the drum is rigidly supported from the ceiling, the treatment table is arranged for the required vertical and angular movements. The drum also is covered with 15 mm. or $5/8$ " lead in accordance with the international recommendations for this voltage.

The X-ray tube cooling system is of the oil-water type, the oil cooling medium being passed through the anode of the tube under high pressure, and thence throughout the length of the tube drum itself and back into the cooler where the stored up heat is removed by means of the circulating city water supply. It is entirely automatic in action in that it is provided with thermal and oil pressure relays so that it is not possible to energise the X-ray tube unless the oil flow and temperature is within the required limits. The cooler also automatically cuts off the city water supply at the termination of the operating period.

The Control Board is designed so that the operator has complete control of every circuit in the apparatus. A two-way communication system between the operator and patient is a built-in feature. In addition to the necessary meters, a time clock records the total number of hours of X-ray tube life. A visual indicator is also provided showing exactly what filters are in use up to seven at one time; whether the lead shutter is open or closed; and whether the X-ray energy is on or off. This latter is necessary as the equipment is practically silent in operation. In addition, the control is provided with every necessary safety inter-locking device that makes it impossible to operate the equipment unless the machine room door is closed; the rectifiers are operating correctly; the X-ray filament is energised; the oil pressure and temperature is correct, etc. A Yale type key switch is also incorporated, locking the whole system.

The whole of the generator and control system was designed and manufactured in Canada by Ferranti Electric Limited at their Mount Dennis plant in Toronto.

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Navitol Malt Compound (Squibb Syrup of Vitamins with Liver Extract and Dicalcium Phosphate) is a palatable syrup which combines refined fish liver oils, malted wheat germ extract, dicalcium phosphate, liver extract and pure food flavor. It supplies Vitamins A, B, D and G in natural form, together with calcium and phosphorus and the nutritional factors present in liver extract and wheat germ. It is biologically assayed for vitamin potency.

Navitol Malt Compound enjoys a wide field of usefulness as a dietary supplement because it provides Vitamin A, B, D and G, as well as other necessary nutritional factors—calcium, phosphorus and other minerals, and the nutritional factors found in liver and malted wheat germ. It thus offers an agreeable, palatable, convenient and economical means of preventing or correcting common vitamin and mineral deficiencies in the diet.

(Navitol is a trade-mark of E. R. Squibb & Sons of Canada, Limited).

—Advt.

OBITUARY

DR. DONALD McKENTY

Dr. Donald McKenty died from coronary occlusion on December 3rd at his home, 288 Harvard avenue, Winnipeg. He was born on Amherst Island, Lake Ontario, 1870, and came to Winnipeg in 1887 to visit his uncle who, at that time, was owner of the Manor Hotel. On his uncle's death he entered the Manitoba Medical College and graduated at the age of 46. He practised in Winnipeg until the time of his death. He is survived by his widow, three sons and two daughters. Two of his sons, Jack and Vincent, are practicing medicine in Winnipeg, and to them and to the other members of his family we extend our sympathy.

DR. MATTHEW ROBERT BLAKE

Dr. Matthew Robert Blake, Member of Parliament for North Winnipeg, 1917-1921, and honorary Lt.-Colonel of the Winnipeg Light Infantry, died in St. Boniface Hospital on November 21st. Dr. Blake was born in Belfast, Huron Co., Ontario, in 1876 of English-Irish parents. On his father's side he traced his ancestry back to Admiral Blake who served England so well in Cromwell's time. He graduated from Trinity Medical College, Toronto, and did post-graduate work in London and Dublin. Coming to Winnipeg thirty-five years ago Dr. Blake built up a large practice. In 1912 he assisted in raising the Winnipeg Light Infantry and was Medical Officer of the regiment from that time till 1932 when he retired and received the long service medal.

He is survived by one son, Dr. Daniel Blake, now doing post-graduate work in London, and a daughter at home. He was buried with full military honors on November 23rd from St. Giles United church to Elmwood cemetery.

DR. DOUGLAS WALLACE

Dr. Douglas Wallace, formerly M.O. 181st battalion, C.E.F. Medical Officer of the Canadian Pension Tribunal, and Health Officer of East Kildonan, died in the Winnipeg General Hospital on December 23rd, at the age of 54.

Born in Fifeshire, Scotland, he came to Winnipeg as a boy with his parents and received his medical education in the Manitoba Medical College, graduating M.D. in 1913. He practiced at Swan Lake, Man., until the Great War when he went overseas with the 181st battalion. On returning to Winnipeg he established a practice in East Kildonan and for a time was Health Officer of that municipality. He was also a former chairman of East Kildonan School Board and president of the Home and School Association. He served for three years as medical officer of the Canadian Pension Tribunal and in that capacity he travelled widely through the west.

He is survived by his widow and three daughters. Dr. Maxwell Wallace of Emerson, Man., is a brother.

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In treatment and prevention of localized staphylococcal infections such as styes, boils, carbuncles, pustular acne and recurrent staphylococcal abscesses, Staphylococcus Toxoid has proved to be distinctly effective. This product is a non-toxic antigen, prepared by treating highly potent staphylococcus toxins with formaldehyde, and cannot induce sensitization to any antitoxin or serum.

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NEWS ITEMS

COLDS—THE UNIVERSAL HAZARD

The following article which was published in the "Industrial Bulletin" of the State of New York by Adelaide Ross Smith, M.D. of the Division of Industrial Hygiene, is considered to be of timely interest. Although written principally from an industrial viewpoint it is comprehensive in its scope, and is here republished in the hope that the general practitioner may find in it something of value.

The season of colds is with us again. With resignation or irritation at what seems a major failure of preventive medicine, most people face one or more inevitable episodes of discomfort and partial disability or worse from this cause during the coming winter.

ECONOMIC COST

In industry, where records can be kept, the extent of the economic damage alone which colds entail is staggering. Brundage's studies have shown that respiratory diseases, of which colds are not only the commonest but the forerunners very often of the others, account for almost one-half of all disabling illnesses and that they cause, on an average, approximately three days of lost time annually per worker.

MEDICAL COST

From the medical aspect too, the importance of colds looms large as evidence of their far-reaching effects accumulates. Complications of the common cold include not only sinus, ear and mastoid infection, as is now well understood, but according to Dochez, colds are considered among the principal contributing causes of arthritis, neuritis and myositis. They may cause severe relapses of chronic ailments such as asthma, rheumatic heart disease and diabetes. They predispose to infection with scarlet fever and meningitis. Their role as a precursor to grippe, influenza and pneumonia is well known. In over 70 per cent. of cases of lobar pneumonia it is estimated that a cold preceded the onset.

CAUSES

Recently definite answers have been supplied by research workers to the vexed questions as to the exact nature and cause of colds. Until this happened the latter had been the subject of endless speculation covering all sorts of possible factors, dietary, environmental and personal. Now, as a result of the work of Dochez and others, it is known that a simple cold is the result of infection with an organism so small that it cannot be seen in any microscope and passes easily through filters which catch the ordinary bacteria. To organisms of this sort the name "Virus" has been given. A cold is a virus disease. Laboratory experiments have shown that the cold virus can be passed from one chimpanzee to another, establishing scientifically the common man's observation that colds are contagious.

The cold virus itself produces a relatively mild congestion which, uncomplicated, would terminate in a week or less with only moderate discomfort and little or no disability. Unfortunately its symptoms constitute its least harmful aspect. Its most serious and harmful characteristic is its ability to stimulate the potentially dangerous bacteria which exist in a quiescent state in everybody's nose and throat. It is due to the aroused activity of these secondary invaders, pneumococci, streptococci and others, that cold complications, from sinus infections to pneumonia, take place. Why the cold virus should have this effect is not known. Once secondary infection has become established, the cold will last from two to

four weeks, resistant to treatment and entailing much discomfort and probably some disability.

PREDISPOSING FACTORS

It is a matter of common observation and experience that colds are not equally prevalent at all seasons. Evidently there are certain factors which predispose to the circulation of the cold virus. Colds are more common in the winter months and during them tend to reach at least two peaks, usually one in October and one in January. The relationship between the prevalence of respiratory disease and the weather has received much study, but of the various factors of temperature, humidity, sunshine, precipitation and wind velocity involved, only the first has shown a definite relationship to the "attack rate." This association, a respiratory disease rate above normal with a mean temperature below normal, is closer during the early fall months than at any other time of year and accounts for the fall "peak."

Chilling of the body, a well established predisposing factor to colds, is no doubt implicated in this relationship between a drop in the mean temperature and the cold rate, and may represent the heating regulating mechanism of the body caught "off guard."

In addition to a temperature drop and chilling of the body, certain conditions of ventilation predispose to colds. The New York State Ventilation Commission found that a definite increase in absences from colds among school children was associated with lack of air movement or "stiffness" and with increases in temperature above 69 degrees F. They particularly stressed the bad effects of over heating, considering this the commonest and most important fault in ventilation during the winter months.

This conclusion was confirmed in a study by Koiranskii who found that a uniform temperature and lack of air motion was more favorable to the development of colds than an air condition of constant fluctuation of temperature and of air motion. Aside from external conditions, individual susceptibility to colds varies considerably. How much this depends upon diet, habits, the presence of infection in the nose and throat or other factors is very hard to say.

It was formerly thought that "toning up" the system with exercise, fresh air and cold baths would increase resistance, but recent studies have thrown doubt on the efficacy of such efforts. Even the correction of nasal defects and removal of diseased tonsils have been reported to be without effect in diminishing cold susceptibility, desirable as these measures are in themselves.

It appears that about 25 per cent. of the population is cold-susceptible even when all suspected contributing factors are corrected. It is this 25 per cent. of susceptibles averaging four or more colds a year, who, responding adversely to temperature change, faulty ventilation or other influences, are largely responsible for the cold epidemics which from time to time affect all groups thrown into close contact. Some believe that if colds among the "susceptibles" alone could be controlled the cold epidemics themselves would disappear.

PREVENTION

The prevention of colds is, as can be realized from the figures mentioned at the beginning of this article, a public health problem of the first magnitude. It is a matter of the greatest importance economically and should be a subject of serious concern to all preventive-minded medical departments.

Since colds are caused by a highly communicable organism, the first thought which comes to mind on prevention is quarantine of all affected individuals.

However, the disease is communicable for at least five days. Quarantine is thus out of the question. The time lost through such preventive measures might easily equal that which they seek to reduce. Smallpox has been controlled by universal vaccination conferring lasting immunity, but in the case of the cold virus no such lasting immunity is obtainable. Preventive measures in this case must deal with building up individual resistance.

ULTRA-VIOLET IRRADIATION

For a while it was thought that irradiation with ultra-violet light offered promise in increasing resistance, but though some favourable results were reported, the general consensus at present is that exposure to the sun lamp has little or no effect so far as colds are concerned. In one study the incidence of colds was actually greater in the group which had received such treatment.

VITAMINS A AND D

The effect of vitamin A, the anti-infective vitamin, in the form of halibut liver oil, was reported by Shibley and Spies on a group of 241 students, nurses and hospital staff. A weekly dosage of 200,000 international units with 4,000 international units of vitamin D was given for 56 weeks. No change in frequency or severity of colds or other respiratory infections followed, but there was a diminution in the duration of winter colds.

Holmes and Sawyer reported more favourable results in the administration of vitamins A and D in the form of five tablespoons of cod liver oil weekly. Their study covered five years and included 3,031 individuals, approximately half of whom served as controls.

In each of five yearly tests the cod liver oil groups were absent materially less time than the control groups, and absence among the former was less each year than the preceding year, though not in the latter. The authors conclude that their results indicate very definitely that cod liver oil is of value for reducing industrial absenteeism caused by colds and respiratory diseases.

VACCINES

In general, for cold prevention stock vaccines have been used containing the organisms most commonly found in the nose and throat, namely: micrococcus catarrhalis, Friedlander bacillus, pneumococcus, streptococcus, staphylococcus albus and aureus. Sometimes vaccines comprised only of streptococci or of streptococci and pneumococci have been used. Vaccines against these secondary organisms constitute a logical approach to the problem since if the complications following infection with cold virus could be prevented, the virus itself would be relatively harmless.

Autogenous vaccines, prepared from the bacteria present in the patient's own nose and throat, while having the merit of providing inoculation against the exact organisms and strains present, are expensive to prepare and consequently are not practicable in any large scale preventive work. Moreover, opinion differs as to whether or not they are actually superior to a reliable "stock" vaccine.

Obviously a great many variations, both in vaccines used and in techniques of administration are possible, and it is not surprising that reports of results are varied.

Dosage procedure with any vaccine varies considerably. Usually only three doses composed of 25 hundredths, one half and one cubic centimeter of the vaccine are given at weekly intervals, but the dosage may be begun with 0.1 cubic centimeter and increased by 0.1 cubic centimeter at three or five day intervals instead. This is preferable for individuals who react severely. Poor results in the use of vaccines may be due to the assumption that immunity will last through the winter. Following up the initial course with either

another course in three months' time, or with periodic injections of one cubic centimeter at intervals of a week or ten days may give better results in the case of highly cold-susceptible individuals.

It is impossible here to attempt to review the work which has been done on this subject, both industrial and otherwise, but allowing for occasional ambiguities, the general consensus seems to be that while vaccines may not diminish the incidence of colds, they diminish their severity and duration, and they diminish the ensuing complications. This has been the conclusion of the medical director of the American Telephone and Telegraph Company, which has had a very extensive experience in the use of "stock" vaccines for cold prevention. These have been used for periods of five to seventeen years in the various plants of the company by a total of 20,000 employees.

Reese reports the profitable use of vaccines against the common cold in the British navy where, in 1933, it was estimated that 66,495 working days were lost from colds and their complications. A stock vaccine containing the common bacteria of the upper respiratory tract was used. Injections of 0.1 cubic centimeter, 0.25 cubic centimeter, 0.5 cubic centimeter and one cubic centimeter, were given at weekly intervals. It was found advisable to follow up this series with a single dose of 0.5 or one cubic centimeter three months later, since immunity did not usually last more than three months. In very susceptible cases this dose was administered at monthly intervals during the winter. Reese stresses the point that inoculation should be given before the cold and influenza season has begun, not later than September. It is important that the patient be free from infection when the inoculations are given, otherwise their condition may be made worse.

Walker reported that 59 per cent. of 97 patients obtained complete or comparative freedom from colds for periods of a year or more following each course of a vaccine composed of the most prevalent types of streptococci. The vaccine was changed yearly in accordance with changes in the organism.

Rockwell, Van Kirk and Powell recently reported on the use of an oral vaccine made up of pneumococci and streptococci. It was taken in doses of 100 billion each in capsules before breakfast for seven consecutive mornings, followed by one capsule a week throughout the season. Five hundred took the vaccine and there were 536 controls. The vaccinated group reported a decrease of 57 per cent. in the number of colds, while the control group reported a decrease of 12 per cent.

Should the effectiveness of an oral vaccine be borne out by further investigation, it would mark an important advance in cold prevention because of the ease and economy of administration. While a hypodermic injection is a very minor affair indeed to the professional person, there are without doubt many laymen who prefer to take their chances with colds rather than go to the inconvenience of a series of inoculations.

TREATMENT

Treatment of colds is secondary in importance to prevention, but plays a part in a preventive programme because of the possibility of sometimes checking or shortening a cold by prompt action and so reducing the opportunity of passing on the infection to others.

Any physician of experience has his own favorite drugs and procedure to follow in attempting to abort colds. The old fashioned resort to bed and a hot drink works well with some people. Certainly bed rest is always imperative with any elevation of temperature, but at the present time it is not generally held by expert opinion that forcing fluids or attempting to increase the alkalinity of the body fluids is of any avail.

In regard to drugs which are effective, the work of Diehl is of interest. He carried on an intensive comparative study of the effects of different drugs in

relieving or aborting colds. His work extended over three years and covered between seven and eight thousand students. He found that the best results were obtained with a combination of codeine and papaverine, one quarter grain each. Seventy per cent. of the 3,700 taking this treatment reported definite improvement or complete relief in thirty-four to forty-eight hours. The optimum dose was found to be a tablet, constituted as described, taken after each meal with two at bed time.

Treatment involving so potent a drug as opium should of course only be undertaken under careful medical supervision.

The recently introduced drugs, ephedrine and neo synephren, which have a vaso-constrictor action on nasal mucous membranes do much to relieve local discomfort and may reduce the liability to sinus involvement.

PROGRAMME FOR INDUSTRY

In conclusion, it can be said that an industry which carries on a vigorous cold prevention campaign will in all probability reap tangible results in diminished lost time and increased efficiency of its workers during the cold-prevalent season. Cardinal points in such a campaign should be:

1. Education of the workers in the importance of not catching colds. Stress should be placed upon avoidance of fatigue, and especially chilling during the cold season, and upon the desirability of a well balanced diet.
2. Correction of faulty ventilation in the plant which might predispose to colds, such as "stuffy-ness" and unnecessarily high temperatures.
3. A study of the personnel to determine the cold susceptibles, followed by special measures to reduce susceptibility in this group. Such measures could profitably, in the light of past experience, include the administration of cod liver oil and courses of vaccine therapy.
4. Prompt treatment of the colds that do occur, instituted in the plant when necessary.

COMMUNICABLE DISEASES REPORTED

Urban and Rural - November, 1937.

Occurring in the Municipalities of:

Chickenpox: Total 395—Winnipeg 226, Brandon 78, St. James 22, The Pas 10, Unorganized 9, Springfield 6, Flin Flon 5, St. Vital 4, St. Boniface 3, St. Clements 3, Wawanesa 3, Hamiota Rural 2, Lawrence 1, Morris Rural 1, Selkirk 1 (Late Reported: October, Brandon 10, Cartier 7, Morris Town 1, Rivers 1, St. Boniface 1, St. James 1).

Whooping Cough: Total 174—Unorganized 61, Winnipeg 55, St. Boniface 14, St. Vital 9, Flin Flon 5, Lakeview 4, Kildonan West 3, Brooklands 2, Fort Garry 2, Kildonan East 2, Grey 2, Hanover 1, LaBroquerie 1 (Late Reported: October, St. Boniface 7, Brooklands 1, Montcalm 1).

Scarlet Fever: Total 132—Winnipeg 61, Brandon 8, Selkirk 7, Arthur 5, Cartier 4, Old Kildonan 4, St. Francois Xavier 4, Kildonan West 3, Macdonald 3, Portage City 3, Portage Rural 3, Unorganized 3, Dauphin Town 2, Flin Flon 2, Minitonas 2, Springfield 2, St. James 2, Ritchot 1, St. Boniface 1, St. Clements 1, St. Vital 1, Edward 1, Fort Garry 1, Kildonan North 1, Melita 1 (Late Reported: October, Flin Flon 1, St. James 1, Unorganized 1).

Mumps: Total 45—Winnipeg 19, Brandon 8, Unorganized 6, Arthur 3, St. Clements 3, Minto 1, Swan River Rural 1 (Late Reported: October, Brandon 4).

Tuberculosis: Total 29—Winnipeg 6, Unorganized 4, St. Clements 3, Montcalm 2, Rhineland 2, St. Boniface 2, Brandon 1, Brooklands 1, Cameron 1, Flin Flon 1, Roland 1, Rosser 1, St. Laurent 1, St. Vital 1, The Pas 1, Turtle Mountain 1.

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Measles: Total 13—Winnipeg 6, St. Clements 4, Brandon 1, Selkirk 1, St. Anne 1.

Diphtheria: Total 10—Winnipeg 4, Fort Garry 2, Rosedale 1, St. Vital 1 (Late Reported: October, Unorganized 2).

Typhoid Fever: Total 10—Hanover 2, Unorganized 2, Desalaberry 1, Portage City 1, St. Anne 1, Winnipeg 1.

Anterior Poliomyelitis: Total 9—Gilbert Plains Rural 2, Dauphin Rural 1, Grandview Town 1, Rosedale 1, Unorganized 1 (Late Reported: September, Grandview Rural 1; October, Fort Garry 1).

Erysipelas: Total 6—Transcona 2, Fort Garry 1, St. Vital 1, Winnipeg 1 (Late Reported: October, Unorganized 1).

Venereal Diseases Reported: Total 127—Gonorrhoea 75, Syphilis 52.

DEATHS FROM ALL CAUSES IN MANITOBA

For the Month of November, 1937.

URBAN—Cancer 49, Pneumonia 9, Tuberculosis 8, Whooping Cough 3, Syphilis 2, Influenza 2, Infantile Paralysis 1, Scarlet Fever 1, all others under 1 year 1, all other causes 167, Stillbirths 11. Total 254.

RURAL—Cancer 29, Pneumonia 21, Tuberculosis 14, Influenza 10, Whooping Cough 3, Dysentery 1, Syphilis 1, all others under 1 year 5, all other causes 176, Stillbirths 10. Total 270.

INDIAN—Tuberculosis 2, Pneumonia 1, Dysentery 1, all others under 1 year 1, all other causes 8, Stillbirths 1. Total 14.

"STONE WALLS DO NOT A PRISON MAKE
NOR IRON BARS A CAGE"

Winter is a jailer who shuts us all in from the fullest vitamin D value of sunlight. The baby becomes virtually a prisoner, in several senses: First of all, meteorologic observations prove that winter sunshine in most sections of the country averages 10 to 50 per cent. less than summer sunshine. Secondly, the quality of the available sunshine is inferior due to the shorter distance of the sun from the earth altering the angle of the sun's rays. Again, the hour of the day has an important bearing: At 8.30 a.m. there is an average loss of over 31%, and at 3.30 p.m., over 21%.

Furthermore, at this season, the mother is likely to bundle her baby to keep it warm, shutting out the sun from Baby's skin; and in turning the carriage away from the wind, she may also turn the child's face away from the sun.

Moreover, as Dr. Alfred F. Hess has pointed out, "it has never been determined whether the skin of individuals varies in its content of ergosterol" (synthesized by the sun's rays into vitamin D) "or, again, whether this factor is equally distributed throughout the surface of the body."

While neither Mead's Oleum Percomorphum nor Mead's Cod Liver Oil Fortified with Percomorph Liver Oil constitutes a substitute for sunshine, they do offer an effective, controllable supplement especially important because the only natural foodstuff that contains appreciable quantities of vitamin D is egg-yolk. Unlike winter sunshine, the vitamin D value of Mead's anti-ricketic products does not vary from day to day or from hour to hour.

—Advt.